

House Government Reform Subcommittee on Federalism and the Census
Field Hearing
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Ben Franklin Technology Partners of Northeastern Pennsylvania

Presentation Notes/ Support Materials

PRESENTATION NOTES

The Ben Franklin Technology Partners of Northeastern Pennsylvania is a non-profit corporation that is part of a four-center, state-funded economic development initiative. The program was created by the Commonwealth in 1983 to play a leadership role in strengthening regional economies, building the state's technology economy, and creating and retaining high-wage, high-skilled jobs.

Our strategy encompasses three key areas:

1. Developing early-stage, technology-oriented companies;
2. Helping established manufacturers creatively apply new technology and business practices; and
3. Promoting an innovative community-wide infrastructure that fosters a favorable business environment for high-growth companies.

The northeastern center serves 19 counties and is located on the campus of Lehigh University. We have three regional offices.

Funding is usually what brings clients to BF. We invest up to \$150,000 per year for up to three years in early-stage technology firms and established manufacturers. But it is our in-house expertise and our extensive Solutions Network of consultants, investors, and other professionals that Ben Franklin alumni cite as most valuable.

In addition, Ben Franklin provides a crucial link between companies and Pennsylvania's world-class research universities. Faculty and students work directly with many Ben

Franklin clients. This provides companies with access to specialized facilities and equipment, additional staffing, and new ideas. It also encourages entrepreneurial students through real-world internships that provide valuable work experience.

Our results are attributed by client companies as the direct result of their work with Ben Franklin. Our center is the most empirically successful in the state. Since 1983, the Ben Franklin Technology Partners of Northeastern Pennsylvania has:

- Started 337 new companies
- Developed 580 new products and processes
- Created 9,373 new jobs
- Retained 17,266 existing jobs

Ben Franklin started its business incubator more than 20 years ago, when business incubation was just beginning. Our incubator on the Lehigh campus has been extremely successful, having graduated 34 companies that gross more than \$350 million in annual revenue, and creating over 2,400 jobs. The incubator currently houses 16 companies with a total of 67 employees and an annual payroll of more than \$2.6 million. The Ben Franklin Business Incubator received the 2001 National Business Incubation Association Incubator of the Year Award. We leveraged our expertise to support a ten-facility business incubator network throughout our region.

The prosperity of our business incubator created a space need for newly-graduated companies. Often these companies wanted to remain physically close to Lehigh and Ben Franklin. Concurrently at that time, Bethlehem Steel had downsized operations, creating a large brownfield space along the riverfront in Southside Bethlehem. A team of economic development organizations developed the Bethlehem Technology Center Campus, located on brownfields, as a way to keep the graduating incubator companies in Bethlehem while at the same time reusing the former Bethlehem Steel property.

The partnership creating Beth Tech I included four non-profit economic development organizations. It utilized five sources of loans totaling \$1.7 million, and grants. Beth Tech I was the initial project in a comprehensive urban riverfront industrial park development initiative. The Center sought to provide below-market rental rates to early-stage, post-incubator technology firms.

The \$3.7 million project was completed in 1993, providing 44,000 square feet of office, research and development, and light manufacturing space. The building achieved full occupancy in 1995, originally housing four tenants, three of which were graduates of the Ben Franklin Incubator. Currently one incubator graduate company, IQE, occupies the building with more than 150 employees.

Based on the success of Beth Tech I, the same economic development team undertook the construction of Beth Tech II. The Center used four sources of loans and grants, and the \$3.2 million, 32,000 square foot facility was built in 1999. Eighty per cent of the facility was pre-leased. Within one year, OraSure Technologies occupied Beth Tech II as the anchor tenant along with two other company residents. OraSure went on to lead in oral fluid collection and immunoassay detection, providing a growing number of diagnostic capabilities internationally. Its 20 minute, saliva-based HIV test is having a major impact on the fight against the spread of HIV and AIDS. The company merged with a publicly-traded company in 2000, built a 40,000 square foot Beth Tech III on its own, and now employs more than 250 people on the Southside Bethlehem technology campus.

Beth Tech IV is in the planning stages as a three-story, 32,000 square foot life sciences facility. BethTech IV will include both business incubator and post-incubator rental space, as both are in short supply.

OraSure, IQE, and three other graduates of the Ben Franklin Business Incubator now reside on the Bethlehem Technology Center Campus in Southside Bethlehem on former Bethlehem Steel brownfields. Today, the total payroll of the companies in the Center exceeds \$18 million, and the five incubator graduates residing there employ 329 in family-sustaining jobs. Further, our joint Ben Franklin-Lehigh University client company projects have attracted more than \$15 million in federal research grants.

Teaming with the Lehigh Valley Economic Development Corporation, Lehigh University, and others, Ben Franklin staff applied our experience with the Bethlehem Technology Centers to form a Keystone Innovation Zone, or KIZ, in Southside Bethlehem. KIZs are industry zones designated by Pennsylvania and adjacent to research colleges and

universities. These “knowledge neighborhoods” are attractive to both recent college graduates and companies because they:

- Build on existing student/faculty relationships
- Provide students with “real world” experience
- Provide companies with an “extra pair of hands”
- Let companies utilize university facilities and equipment
- Provide tax incentives

The Southside Bethlehem KIZ includes the Ben Franklin Business Incubator, the Bethlehem Technology Centers, and Bethlehem Steel brownfields. Indeed, Southside Bethlehem served as a KIZ model, and Southside Bethlehem was one of the first two designated KIZs in the state.

The Ben Franklin Technology Partners of Northeastern Pennsylvania and its economic development partners have a demonstrated record of success in redeveloping brownfields as job- and revenue-creating technology parks. We need financial assistance to keep the momentum strong. We request that you provide matching grants for appropriate bricks and mortar post-incubator facilities on brownfield sites, where local economic development organizations and research universities collaborate to make such sites attractive to the next generation of technology companies.

The facilities you help create will serve a dual purpose. They will encourage business incubator graduates to stay in the area by providing them with appropriate and well-situated space. In addition, they will reclaim and reuse long-idle brownfields, building the local tax base and adding to the local economy. The companies, the community, the Commonwealth, and the nation all stand to benefit. It will be an outstanding investment, and the Ben Franklin Technology Partners stand ready to assist the committee in any way to facilitate the creation of such a program.

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SUPPORT MATERIALS

Ben Franklin Technology Partners of Northeastern Pennsylvania

Who We Are

For more than 20 years, the Ben Franklin Technology Partners of Northeastern Pennsylvania has helped this region's technology companies prosper by providing access to capital, business expertise, and university resources. As hundreds of companies have experienced, Ben Franklin delivers hands-on support, guidance, and investment funds at companies' most vulnerable times, helping clients to achieve and sustain commercial success and competitive advantage.

Capital – Ben Franklin makes investments that typically range from \$30,000 to \$150,000 per year for up to three years. We take calculated risks investing in young, unproven companies that could not secure seed funding through conventional means. We also assist early-stage firms as they prepare to raise additional capital, and provide an important initial endorsement for a new company.

We provide support to established companies by providing attractive loan packages for manufacturing innovation and access to our network of industry experts. Work is usually technology development or application, and is accomplished with a university partner.

Business Expertise – Each company in the Ben Franklin portfolio benefits from the collective experience of seasoned professionals who focus on turning high-potential ideas into high-growth businesses. In-house expertise is complemented by Ben Franklin's extensive Solutions Network of advisors, service providers, and investors, creating a powerful and comprehensive support program for clients.

University Resources – We tap into the research strength of Pennsylvania's colleges and universities, whose faculty and graduate students work directly with many clients. Ben Franklin provides a crucial link between the Commonwealth's

companies and the wealth of knowledge, facilities, and manpower resources in the state's higher education institutions.

The Ben Franklin Technology Partners of Northeastern Pennsylvania is a non-profit corporation that is part of a four-center, state-funded economic development initiative. The northeastern center is headquartered on the campus of Lehigh University with regional offices in Lewisburg, Reading, and Wilkes-Barre, and operates a technology incubator on Lehigh's Mountaintop Campus.

What We Do

Our mission is to promote, sustain, and invest in the transformation of our regional economy through innovation and partnering. Our strategy encompasses three key areas:

- 1 - Developing early-stage, technology-oriented companies
- 2 - Helping established companies creatively apply new technology and business practices to achieve industry leadership
- 3 - Promoting innovative community-wide initiatives that foster a favorable business environment for high-growth companies

Ben Franklin works with the most promising technology ventures to deliver on these strategies. To qualify, companies must be located in, or relocate to, our 19-county northeastern Pennsylvania service area (Berks, Bradford, Carbon, Columbia, Lackawanna, Lehigh, Luzerne, Monroe, Montour, Northampton, Northumberland, Pike, Schuylkill, Snyder, Sullivan, Susquehanna, Union, Wayne, and Wyoming counties). Companies must also offer significant potential for future growth through the development of an innovative technology, or an innovative application of technology.

Ben Franklin works with clients as integrated enterprises to enhance their entire way of doing business. We are evaluated on the basis of the commercial success achieved by our clients as a result of our assistance.

Keystone Innovation Zones

The Keystone Innovation Zone (KIZ) program is a key element of Governor Ed Rendell's economic stimulus package and has already produced successful results throughout the Commonwealth. KIZs create "knowledge neighborhoods," close to colleges and universities to keep new graduates and budding entrepreneurs in the area.

By focusing talent and resources, KIZs build synergies among emerging technology companies. Here, entrepreneurs find ready resources, including research and peer groups, entrepreneurial support, and workforce and financial assistance. The program encourages the creation of new business, expands the research and development sector of Pennsylvania's economy, and facilitates technology transfer to existing companies.

Ben Franklin worked with the state on implementation plans for the KIZ initiative. During that process, our CEO presented the Ben Franklin/OraSure Technologies/Lehigh University partnership model to a statewide university presidents' meeting hosted by Governor Rendell as a model to be replicated. More recently, BFTP/NEP leveraged our experience, teaming with the Lehigh Valley Economic Development Corporation, Lehigh University, and others to form a KIZ in Southside Bethlehem. This KIZ includes former Bethlehem Steel brownfields. Since then we have played a key role and provided support and assistance in the development of other northeastern Pennsylvania Keystone Innovation Zones.

Southside Bethlehem KIZ Wireless Project

One example of the incentives provided to recent graduates and small businesses as part of the KIZ is Southside Bethlehem's broadband wireless network. In partnership with area colleges and universities, other economic development organizations, local hospitals, and the City of Bethlehem, Ben Franklin spearheads the drive for a broadband wireless network in the 2.5 square miles of the Southside Bethlehem KIZ.

The broadband network provides high speed, ease of access, and ubiquitous coverage at a low cost to local students, small businesses, and residents. In addition, the network

will expand to support services such as traffic surveillance, police and fire applications, automated meter readings, and community-relevant information.

The availability of broadband wireless Internet coverage at a low cost will facilitate simple access for members of the community, including visitors, business travelers, low-income residents, and non-profit organizations. Through this network, the Southside Bethlehem KIZ, upon which the KIZ statewide model was built, enables entrepreneurs to remain connected during their companies' critical early stages.

Ben Franklin's role in Lackawanna, Luzerne, and Pocono Mountains KIZs

Ben Franklin was one of the drivers in developing and implementing the two additional KIZs in Luzerne and Lackawanna counties. With its economic development colleagues including the Great Valley Technology Alliance, the Greater Wilkes-Barre Chamber of Commerce, the Greater Scranton Chamber of Commerce, CAN-DO in Hazleton and other university and community leaders, Ben Franklin invested in and worked to create these KIZs. The KIZs include four incubators, one each in Carbondale, Hazleton, Scranton, and Wilkes-Barre, all of which are members of the Ben Franklin Business Incubator network. These business incubators spur entrepreneurial development to help build a stream of new enterprises in the KIZs.

Ben Franklin was involved at the concept stage in the development of the Pocono Mountains KIZ with university and community leaders throughout Monroe County. The ESU Accelerator, which is located within this KIZ and is a member of the Ben Franklin Business Incubator network, serves as the focal point for KIZ program development throughout the county.

Greater Susquehanna KIZ

Ben Franklin chaired and spearheaded the KIZ application and implementation process to create five sub-zones within the greater Susquehanna KIZ: one in Bloomsburg, two in Danville, one in Selinsgrove, and one in Lewisburg. The sub-zone in Bloomsburg hosts the Bloomsburg Regional Technology Center, a 32,000 square foot renovated facility that will be used as a technology incubator, a project that was also led by Ben Franklin. Due to their proximity to Geisinger Medical Center, the Danville zones will facilitate the creation of early-stage life science companies in the region.

The Ben Franklin Business Incubator Network

The concept of business incubators in Pennsylvania originated with the BFTP/NEP program. Established just months after BFTP/NEP in 1983, the BFTP/NEP Business Incubator has graduated 34 successful companies, grossing over \$350 million in annual revenue, and creating more than 2,460 jobs. These graduates create a pipeline of intermediate-stage firms interested in locating in the Bethlehem Technology Center facilities on former brownfields.

The reduced operating costs of starting a company in a business incubator are usually what initially draw early-stage companies. But the business development assistance and sharing of best practices among tenants are also key benefits. The BFTP/NEP Business Incubator, located on Lehigh University's mountaintop campus, was named 2001 National Business Incubator of the Year by the National Business Incubation Association (NBIA). Staff members apply the incubation expertise that won this honor as we continue to support business incubators in a ten incubator network throughout our region.

This year, two new incubators were added to the network: CAN BE in Hazleton and the Bloomsburg Technology Center. Other facilities in the network are: Ben Franklin Business Incubator Center (Bethlehem), Bridgeworks Enterprise Center (Allentown), Carbondale Technology Transfer Center, East Stroudsburg University Accelerator, Pottsville/Schuylkill Technology Incubator, The Enterprise Center (Sayre), The Innovation Center @ Wilkes-Barre, and Scranton Enterprise Center. Seven out of ten of the incubators in the Ben Franklin Business Incubator Network are key elements of the Keystone Innovation Zones in northeastern Pennsylvania.

Ben Franklin Results Statewide

The Ben Franklin Technology Partners program statewide boosted Pennsylvania's economy by \$8 billion in the 12-year period between 1989 and 2001, according to an independent economic impact study. Nexus Associates, a Boston-based economics and management-consulting firm, conducted the study.

Significant findings include:

- Ben Franklin generated 93,105 job-years at a cost to the Commonwealth of \$3,342 per job-year. Job years are defined as the number of jobs created that last a full year or more multiplied by the number of years they have existed to date.
- Every public dollar invested in Ben Franklin yielded nearly \$23 of additional state income
- The state garnered more than \$400 million in additional tax revenue as a direct result of the program, which exceeded the program's operating costs over the same period.

COMPANY SUCCESS STORIES

OraSure Technologies, Inc., Bethlehem, PA

Product/Service:

Medical diagnostics with a focus on the oral fluid, point-of-care market – especially for HIV and drugs of abuse – as well as medical devices and portable cryosurgical systems

Ben Franklin Investment: \$235,000

Oral fluid testing saves lives, injects millions into local economy

The concept seems simple enough – using saliva rather than blood or urine to simplify and speed testing for HIV, other infectious diseases, drugs of abuse, and alcohol.

The implications, however, have been monumental for the developer, OraSure Technologies, Inc., and for millions of people around the globe.

The company's breakthrough oral fluid testing technology has been lauded by the President and the U.S. Department of Health and Human Services (HHS). Claude Allen, Deputy Secretary of HHS, said, "The introduction of ... the OraQuick® Rapid HIV-1 Antibody Test, has enabled us to reduce barriers to testing and help increase the number of people who know their HIV status, helping to stop the spread of AIDS."

Other recognition for the OraQuick HIV-1 test has included a Gold Medical Design Excellence Award, Popular Science magazine's "Best of What's New" award, and the prestigious Photonics Circle of Excellence Award. FDA approval in 2004 allows the OraQuick HIV-1/2 test to be used at more than 180,000 sites in the United States, including outreach clinics, community-based organizations, and physicians' offices.

It's no wonder company revenues soared from \$77,000 to \$40 million between 1989 and 2003, an average compound growth of 56% per year. And it's no surprise that the Ben Franklin Technology Partners of Northeastern Pennsylvania provided vital resources and funding during the company's genesis.

Sunscreen product launched bright future.

Founders Bill Hinchey, a marketing and sales executive, Mike Gausling, a corporate finance specialist, and Sam Niedbala, a research scientist, teamed up in the 1980s and formed Solar Care Technologies Corp. to develop and market a sunscreen towelette. After work on a business plan, market evaluation, and product formulation, the team set up shop in Ben Franklin's business incubator on Lehigh University's campus. The cost of incubator space was attractive, as were its amenities, such as laboratories, meeting rooms, and shared business equipment, not to mention the presence of other start-up firms with whom Solar Care shared information and brainstormed on business issues.

Mentoring advice from Bob Thomson, Ben Franklin's Lehigh Valley Regional Manager, also proved beneficial to the young company. Soon after moving into the incubator, Solar Care received a \$95,000 investment from Ben Franklin to finalize development of the towelette product. Shortly thereafter, Solar Care successfully licensed its sunscreen towelette to pharmaceutical giant Schering-Plough.

Rapidly building on successes.

The company quickly expanded from sunscreen into enzyme immunoassay tests for the insurance risk assessment market. An additional \$140,000 investment from Ben Franklin enhanced product development and commercialization and enabled the company to work with Lehigh professors.

In 1994, the company acquired the assets of Enzymatics, another Ben Franklin client, and its patented saliva alcohol test. Renamed STC Technologies, Inc. in 1995, the company secured exclusive worldwide patent and trade secret licenses for a label technology called Up-Converting Phosphor Technology (UPT™).

STC received \$9.1 million in venture capital during 1999, including an investment from Pennsylvania Early Stage Partners. And in 2000, STC merged with Epitepe, Inc., Beaverton, Ore., and became OraSure Technologies, Inc., which is traded on the NASDAQ stock market (NASDAQ:OSUR).

As a leader in oral fluid testing, OraSure now offers a growing number of diagnostic capabilities, such as tests for infectious diseases, drugs of abuse, and alcohol abuse, to a variety of markets worldwide. Its medical devices and diagnostic products are used by public- and private-sector clients, life insurance companies, clinical laboratories and physicians' offices, and for workplace testing.

In the Lehigh Valley, OraSure has created more than 200 jobs (and millions of dollars in payroll), reclaimed Bethlehem Steel brownfields, attracted significant outside investment, and provided research and development work for Lehigh University faculty and students.

From its humble beginnings in the incubator to national recognition for its HIV testing advances, OraSure is rocketing to prominence in the medical diagnostics industry. And Ben Franklin is honored to have been the launching pad.

IQE, Inc., Bethlehem, PA

Product/Service:

Molecular beam epitaxy (MBE) epiwafers for telecommunications, optoelectronics, and electronic applications

Ben Franklin Investment: \$231,146

High-tech venture succeeds with high-level support.

The real estate adage "Location, location, location" has a cousin in the semiconductor industry: "Faster, faster, faster."

The inexorable desire for speed – not to mention size reduction, reliability, cost, and design flexibility – had led to new materials and processes, including sophisticated molecular beam epitaxy, MBE.

In 1989, Tom Hierl and his start-up company, Quantum Epitaxial Designs, Inc. (QED), saw an opportunity for producing MBE wafers on an outsourced basis. Between him and success were costly validation research, million-dollar equipment, and exacting facility requirements on top of the extraordinary rigors of launching a business. Scale-up continued into 1996.

Two years later, QED was one of the fastest-growing companies in Eastern Pennsylvania. And in 1999, Hierl's company merged with Epitaxial Products International, Ltd. (EPI) in Cardiff, Wales, to form International Quantum Epitaxy, or IQE. Evidently, "faster, faster, faster" applies to the business as well as the products.

No wavering on wafer advancements.

MBE is a wafer production method that uses a molecular beam of materials to deposit atom-thin layers onto advanced, multi-element substrates like Gallium Arsenide. The resulting semiconductors are used in mobile telephones, missile guidance systems, satellite communications, power systems, automotive applications, and more.

Complicated processes like MBE demand expensive state-of-the-art equipment, extremely pure material sources, and an ultra-high vacuum environment. The Ben Franklin Technology Partners of Northeastern Pennsylvania helped deliver the capital funding to start QED's operation.

"Ben Franklin made the introduction to the bank for us. The staff hooked us up with Mid-Atlantic Venture Partners for venture financing. They found us capital," says Hierl. "And when there were questions along the way, Ben Franklin was always there as a resource for guidance."

Business operations get a boost.

In addition to funding assistance, Ben Franklin provided space and resources to the new company in the nationally recognized Ben Franklin Business Incubator.

“Just being in the incubator center was a big advantage. You come in as a freshman and you talk with the juniors and seniors about things needed to run a business, like medical insurance and phone systems,” says Hierl. “Eventually, you become a senior and graduate. It’s helpful to be around others going through the same issues.

“Plus, being able to have cleanroom facilities at the incubator was very important. A commercial landlord would want a guarantee for lease improvements, so that was a big step that we didn’t need to worry about,” he said.

Weathering the market’s boom-bust cycle.

IQE offers outsourced production of high-quality wafers to some of the biggest names in the electronics industry – companies that wanted to benefit from the firm’s expertise and unique manufacturing capacity.

During the telecommunications boom in the late 1990s, IQE’s sales rose dramatically as its customers rushed to meet consumer demand. When demand dipped, the company had a financial footing solid enough to survive. “We had a good amount of critical mass, so when the market did a downturn, we were able to weather it, as opposed to being debt financed and having cash flow issues,” says Hierl.

Now with more than 70 employees and a 40,000-square-foot facility on former brownfields in Bethlehem, IQE is looking to expand its presence overseas. “We’ve been making inroads into the Far East and are starting to see good results in Japan and Taiwan. We’re also looking to get into China and South Korea,” says Steve Gergar, who manages IQE’s Bethlehem operations since Hierl left the company in 2003. “It’s very tough to break into the market. But once you do, you have a big foot in the door and it really opens up new opportunities.”